

A1063

UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Cheng H. Huang et al.

Application No. : 10/646,013

Confirmation No. : 8979

Filed : August 22, 2003

For : ELECTRICALLY-PROGRAMMABLE INTEGRATED  
CIRCUIT ANTIFUSES

Group Art Unit : 2826

Examiner : Remmon R. Forde

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450


INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98,  
applicants hereby bring the attention of the Examiner to the  
documents listed on the attached Form PTO-1449 (submitted in  
duplicate).

A copy of each listed document that is not a U.S.  
patent is enclosed herewith.

Respectfully Submitted,

  
G. Victor Treyz  
Reg. No. 36,294  
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Customer No. 36532



PTO/SB/08a (08-03)  
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|------------------------|-----------------|
| Application Number     | 10/646,013      |
| Filing Date            | 8/22/2003       |
| First Named Inventor   | Cheng H. Huang  |
| Art Unit               | 2826            |
| Examiner Name          | Remmon R. Forde |
| Attorney Docket Number | A1063           |

### U. S. PATENT DOCUMENTS

| Examiner Initials* | Cite No. <sup>1</sup> | Document Number                          | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines, Where<br>Relevant Passages or Relevant<br>Figures Appear |
|--------------------|-----------------------|--|--------------------------------|--|---|
|                    |                       | Number-Kind Code <sup>2</sup> (if known) |                                |  |   |
|                    |                       | US- 4,207,556                            | 06-10-1980                     | Yoshi et al.                                       |   |
|                    |                       | US- 4,433,331                            | 02-21-1984                     | Kollaritsch  |   |
|                    |                       | US- 4,609,986                            | 02-21-1986                     | Hartmann et al.                                    |   |
|                    |                       | US- 4,617,479                            | 10-14-1986                     | Hartmann et al.                                    |   |
|                    |                       | US- 4,761,768                            | 08-02-1988                     | Turner et al.                                      |   |
|                    |                       | US- 4,642,487                            | 02-10-1987                     | Carter   |   |
|                    |                       | US- 5,510,730                            | 04-23-1996                     | El Gamal et al.                                    |   |
|                    |                       | US- 5,291,434                            | 03-01-1994                     | Kowalski   |   |
|                    |                       | US- 6,477,094                            | 11-05-2002                     | Kim et al.   |   |
|                    |                       | US- 6,456,546                            | 09-24-2002                     | Kim et al.   |   |
|                    |                       | US- 5,303,199                            | 04-12-1994                     | Ishihara et al.                                    |   |
|                    |                       | US- 5,070,384                            | 12-03-1991                     | McCollum et al.                                    |   |
|                    |                       | US- 5,463,244                            | 10-31-1995                     | De Araujo et al.                                   |   |
|                    |                       | US- 6,125,069                            | 09-26-2000                     | Aoki   |   |
|                    |                       | US- 6,108,261                            | 08-22-2000                     | Kim et al.   |   |
|                    |                       | US- 5,844,298                            | 12-01-1998                     | Smith et al.                                       |   |
|                    |                       | US- 5,831,923                            | 11-03-1998                     | Casper   |   |
|                    |                       | US- 10/780,427                           | N/A                            | Chih-Ching Shih et al.                             |   |

### FOREIGN PATENT DOCUMENTS

| Examiner Initials* | Cite No. <sup>1</sup> | Foreign Patent Document   | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines,<br>Where Relevant Passages<br>or Relevant Figures Appear | T <sup>6</sup> |
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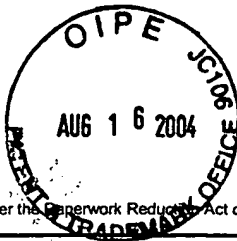
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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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| Art Unit               | 2826            |
| Examiner Name          | Remmon R. Forde |
| Attorney Docket Number | A1063           |

### NON PATENT LITERATURE DOCUMENTS

| Examiner Initials* | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T <sup>2</sup> |
|--------------------|-----------------------|---|----------------|
|                    |                       | WEI ZHANG ET AL., "Energy Effect of the Laser-Induced Vertical Metallic Link", IEEE Transactions on Semiconductor Manufacturing, Vol 14, No. 2, May 2001 pp 163-169   |                |
|                    |                       | "Analyzing the process window for laser copper-link processing"<br>Solid State Technology - Semiconductor manufacturing and wafer fabrication, Jan 8, 2003  |                |
|                    |                       | ALEXANDER KALNITSKY et al. "CoSi2 integrated fuses on poly silicon for low voltage 0.18 um CMOS applications"<br>(c) 1999 IEEE  |                |
|                    |                       | MOHSEN ALAVI "A PROM Element Based on Salicide Agglomeration of Poly Fuses in a CMOS logic process"<br>IEEE International Electron Devices Meeting, December 1997   |                |
|                    |                       | NORIAKI SATO et al. "A New Programmable Cell Utilizing Insulator Breakdown", IEDM 1985, pp 639-642  |                |
|                    |                       | JINBONG KIM et al. "Three-Transistor One-Time Programmable (OTP) ROM Cell Array Using Standard CMOS Gate Oxide Antifuse", IEEE Electron Device Letters, Vol 24, No. 9, September 2003 pp. 589-591   |                |
|                    |                       | WEI ZHANG et al. "Laser-Formed Vertical Metallic Link and Potential Implementation in Digital Logic Integration", PROC MAPLD, MD, 1999 pp 1-7 (B5)  |                |
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Considered

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